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AUTHOR Bush, Terry M.; Lashbrook, William B.
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ABSTRACT

Initial credibility, use and non-use of evidence, and language intensity manipulate belief formation and change. Evidence supports the hypothesis that if a group of subject is exposed to a communicator who carries impressive credentials, uses specific data, and phrases a message in intense, fear-producing terms, the subjects will respond with positive belief. However, when these factors are less present, belief is correspondingly reduced. The research methodology used is a first step toward the development of a more complete persuasion testing paradigm. (CH)

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THE INTERACTION OF CREDIBILITY, EVIDENCE, AND LANGUAGE INTENSITY MANIPULATION ON BELIEF FORMATION AND CHANGE

Terry M. Bush and William B. Lashbrook

Department of Information Sciences
Illinois State University

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ABSTRACT

This study investigated the effects of initial credibility, use and non-use of evidence, and language intensity manipulations on belief formation and change. It was initiated to test the applicability of attitude change techniques to the alteration of beliefs and is perceived as a first step toward development of a more complete persuasion paradigm.

The variables manipulated have been found by previous researchers to have some impact on the attitude change process. It was assumed that the variables would have concomitant effect upon beliefs.

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THE INTERACTION OF CREDIBILITY, EVIDENCE AND LANGUAGE INTENSITY MANIPULATION ON BELIEF FORMATION AND CHANGE

Introduction

For over two decades the study of persuasion has been claimed as an integral domain of inquiry for nearly every sub-discipline in the social sciences. Despite the varying inputs emanating from this cross-producting, the study of persuasion exhibits a remarkable similarity in investigative methodologies employed, the most frequent involving the manipulation of source or message variables in order to assess their impact on a quantifiable receiver variable. The receiver variable that has enjoyed the bulk of such quantification has been the subject's "attitude." Recently, however, researchers have begun to suggest that an understanding of persuasion cannot be complete until one examines the dynamics of attitude formation. Specifically what is being suggested is a broader conception of persuasion than just attitude change. This extension requires the empirical investigation of an individual's belief system and the processes by which this system gives rise to such manifestations as attitude change.

While the importance of a belief paradigm has been emphasized by many theorists and researchers (Fishbein, 1972 and Cronkhite, 1969), investigations conducted within the context of attitudes have rarely analyzed the process of belief formation. Although definitive anwers to the processes involved in the formation of beliefs are not readily available, there is considerable speculation that suggests the primacy of the belief concept to a true understanding of persuasive effects.

The present study suggests that belief change takes the form of behavioral manipulation or the manipulation of information both about a source and from a source/message to a receiver. The information about a source which seems most relevant to both attitude and belief change appears to fall into the credibility domain. Information linking the source to a particular message can be viewed in terms of the use or non use of pertinent facts about a topic (evidence) and phrasing or style of the message in terms of the language employed in the rationale of a persuasive intent. This latter variable is commonly operationalized as language intensity.

Source credibility, use of evidence and language intensity have been linked empirically to explanations and predictions of attitude change. Their concommitant effect on belief change has yet to be established. The investigation of such an association is the objective of the current research. Knowledge claims in this arena should lead to a broader and more sophisticated understanding of the persuasive communication process.

Review of Literature

The following section will review relevant literature relating to the previously cited variables. Research on credibility, use of evidence, language intensity, and belief formation will be cited; at the end of this section, the theoretic hypotheses derived from the review of literature will be stated.

Credibility

The concept of source credibility, referred to by rhetoricians as "ethos" has been variously defined. Cronkhite (1969, p. 173) suggests "Ethos is the term rhetoricians have used as a linguistic waste-basket for any discernible source characteristic for better (or worse) than two thousand years." Modern communication researchers have, despite this muddled heritage, reached a consensus in the use of "source credibility" as a variable for study. Source credibility is the "attitude toward a source of communication held at a given time by a receiver" (McCroskey, 1968, p. 38).

Research on credibility has generally taken one of two directions. It has either focused on establishing the dimensionality of the construct or accessing credibility's effect on immediate attitude change.

Studies on the Dimensionality of Credibility

A large number of studies have attempted to define the dimensions of credibility (Hovland, Janis, Kelley, 1953; Berlo and Lemert, 1961; Norman, 1963; McCroskey, 1966; Markham, 1968; Whitehead, 1968; McCroskey, Jensen, and Todd, 1972). These factor analytic studies have variously labeled the dimensions of credibility but have, in general, identified four factors: trustworthiness, competence, dynamism, and sociability (Cronkhite, 1969). McCroskey, Jensen, and Todd (1972) studied the generalizability of these dimensions by creating four source types: public figures, mass media, peers, and spouses. Since this study will utilize public figures as sources, only the results of that type will be reported. McCroskey et al. identified the factors of competence, character, composure, and extroversion as applying to judgments of public figures. Thus, for the purposes of the current research, credibility will be interpreted as a manipulatable set of value-based informational statements about a public source of communication.

The Effects of Initial Credibility

Basically, studies in this area have varied source credibility as an independent variable using identical messages presented to comparable audiences and then contrasting the amount of attitude change (the dependent variable) between audiences exposed to either high or low credibility conditions.

In the first of this type of study, Haiman (1949) tape recorded a speech regarding socialized medicine and attributed it to three different people: Thomas Parran, then Surgeon General of the United States; Eugene Dennis, then Secretary of the Communist Party in America; and an unnamed Northwestern

University sophomore. Parran was rated as more competent than either of the other speakers and was more effective in producing immediate attitude change as measured by Woodward shift-of-opinion ballots; the 'Dennis' and "Sophomore" conditions did not differ significantly. Replications by Strother (1951) and Paulson (1954) obtained similar results.

A series of similar studies led a group of Yale experimenters to conclude that an initially high credible source has substantially greater immediate effect on audience attitudes than a low credible source (Hovland, Janis, and Kelley, 1953).

The general conclusion of research on the effects of initial credibility, as summarized by Lashbrook (1971), is the higher the initial credibility of the source, the more attitude change will be produced. Research by Fishbein and his associates (1969) suggests that a generalized manipulation of credibility may well influence beliefs and, provided there is linkage between beliefs and message variables, subsequently influence the acceptance of a message's conclusion.

Evidence

Evidence has generally been considered to be opinions or facts attested to by individuals other than the source of the message. Research has focused on the effects of evidence on immediate attitude change, the effects of evidence on source credibility, and the interaction effects of evidence and credibility on immediate attitude change.

Effects of Evidence

Research in this area has yielded conflicting results. Cathcart (1953) held credibility constant in evidenced and non-evidenced messages and measured the effects of both on audience attitudes with Woodward shift-of-opinion ballots. He found that the use of evidence significantly increased attitude change. Bettinghaus (1953) found similar results. Two more studies (Gilkinson, Paulson, Sikkink, 1954; Ostermeier, 1966) found a trend in that direction but failed to meet criteria for statistical significance. Five studies found no significant effect for evidence on attitude change (Anderson, 1958; Costley, 1958; Dresser, 1962; Gardner, 1958; Wagner, 1958). It is consequently impossible to make a firm generalization regarding a main effect of evidence on the persuasive process.

Interaction of Evidence and Credibility

A series of twelve studies by McCroskey (1971) examined the effects of evidence on several dependent variables. Results suggest that the inclusion of evidence has little or no impact on credibility if the source of the message is initially high credible; including evidence may significantly increase the source's credibility if the source is initially low credible, provided that the message is well delivered and the audience has little or no prior familiarity with the evidence included in the message. McCroskey also found that evidence, when used by an initially low credible source, tended to produce

greater attitude change than a low credible source using no evidence; he further reported no significant effect for evidence on attitude change if the source of the message is perceived as high credible.

Whitehead (1969) found that the inclusion of authority-based assertion increased the credibility of the speaker on the "trustworthiness" dimension but failed to find significant impact on any other dimension.

Based on this research it is possible to generalize that the inclusion of evidence will increase the credibility of a low credible source and increase the impact of that source type on receiver variables like attitudes and beliefs. Here again the linkage between attitudes and beliefs is assumed to be based upon a concommitant relationship for both variables of persuasion.

Language Intensity

Language intensity is that quality of language which demonstrates the degree to which a source's coding behavior deviates from neutrality. For example, "definitely" is more intense than "possibly." Studies of intensity have been directed at the effects of intensity on attitude change and the effects of intensity on source credibility.

Much of the research done in the area of fear appeals is also applicable to the study of language intensity. In creating a high fear message, the experimenter frequently manipulates the intensity of modifiers to show "disasterous" consequences as opposed to the low fear, and low intense, "unpleasant" consequences. Especially relevant to this study is research in the interaction effects of fear appeals and evidence on attitudes.

The Effects of Intensity

Bowers (1963) tested the impact of intense language on attitude change in a study directed at the relationship between an introversion-extroversion dimension of personality and persuasibility. He constructed a high and low intensity message attributed to a high and a low credible source and found that low intensity messages were more effective in producing attitude change than high intensity messages. Bowers failed, however, to carefully control the independent variable of credibility. First of all, he did not measure the credibility of his sources in relation to any topic. Since sources which are highly credible on one topic may not be on another, Bowers' sources may not have been highly credible in relation to the topic eventually used in the experimental manipulation. Secondly, Bowers used only a title, such as "college president," to induce credibility, allowing subjects to evaluate his source only as a vague stereotype. It is thus very possible that his "high" credible source may not have been high credible at all and thus the impact of this important variable was lost.

Whittaker (1967) found that increasing language intensity tended to increase attitude change but only to a point. Increasing intensity beyond that point tended to reduce attitude change and move the audience in a direction opposite the one advocated by the speaker.

Thompson (1965) found that the audience's willingness to accept high intense language varies with their initial agreement with the topic. He found that low intense messages were most successful in changing the attitudes of audience members who disagreed with the topic and that high intense messages were most successful when the audience agreed with the topic. Like Whittaker, Thompson found that increasing intensity beyond the audience's willingness to accept it could cause them to change attitudes opposite the desired direction.

The Effects of Intensity

McEwen and Greenburg (1970) created a message of high and low intensity by varying verbs and modifiers to determine the effects on source credibility and evaluation of the message and topic. The initial credibility of the source was determined 'moderate' on all dimensions. Following the high intense message the source was perceived as more dynamic. No other significant differences were found.

Thompson (1965) used tape recorded messages to determine the effect of intensity on credibility. He found significant increases on the trustworthiness, dynamism, and competence dimensions of credibility when high intense language was used.

Fear Appeals

As previously suggested, language intensity is frequently used in creating fear appeal messages. Because this study will manipulate language intensity and evidence, research on the interaction effects of fear appeals and evidence is relevant.

Gardner (1969) created four messages opposing the use of seat belts in automobiles, two of which contained high fear arousing material and two of which contained mild fear appeals. One version of each fear appeal condition was evidenced while the other contained generalized assertions (no evidence). Credibility was held at a moderate to low level by means of an introduction preceding all experimental conditions. Gardner found all conditions produced significant attitude change but the high fear evidenced treatment produced significantly more attitude change than any of the other treatments. The data further indicated that a source employing strong fear appeals was perceived as more dynamic and competent regardless of the inclusion of evidence than a source employing a mild fear appeal.

The research in language intensity, then, leads to the conclusion that intensity has impact on attitudes and source credibility. Since these two variables provide the informational contexts for messages, it would appear plausible to assert that they might also interact with a receiver's belief system in the explanation and prediction of persuasive response.

Belief Formation

The concept of belief can be defined as a subject's perception or judgment that an object or person has certain attributes, qualities, characteristics,

or is related to some other object, concept, or person. The dimension that underlies this perception or judgment is viewed as one of subjective probability involving an object or behavior and some related concept or attribute. Fishbein has made a distinction between beliefs that may be labeled "descriptive," e.g. (X) is (Y), and those that may be labeled "inferential," e.g. (X) is (Z). A descriptive belief may also take the form of (O) said (X is Y). The distinction between "descriptive" and "inferential" beliefs may be envisioned to be on a continuum with the respective endpoints defined as based solely on the observable features of a stimulus and those based entirely on self-generation. Research is available supporting the contention that recall of a message's content such as (O) said (X is Y) is not influenced by the credibility of the communicator or the subject's own stand on the issue involved. Too often, however, the measures employed in many studies have failed to make a distinction between measures of recall or recognition and belief formation. The same criticism may be made of investigations concerning simple descriptive (X) is (Y) beliefs. Most of the evidence at present points to the fact that subjects are able to veridically report message content and the events that occur within the experimental setting when the above distinction in dependent variable measurement is made.

Manipulation Effects on Beliefs

Due to a continuing emphasis on independent variable manipulation, the assessment of belief formation as a dependent variable has received little attention in the persuasion paradigm. Those studies investigating belief acceptance per se have usually employed single belief statements that were attributed to significant referents, referents of varying levels of prestige, and differential degrees of belief discrepancy. Rule and Renner (1968) found that belief discrepancy was linearly related to belief change. Brewer and Crano (1968) reported a trend toward curvilinearity between discrepancy and subsequent changes in a subject's attitude toward the topic for three levels of credibility. As expected, different relationships among these manipulations will be found partially on the basis of the varying dependent variables and measures that were employed.

Recent work by Hylton and Lashbrook (1972) has suggested that types of receivers can be classified via an examination of their prior attitudes toward a message topic, their beliefs concerning specific message issues and supportive evidence, and their willingness to seek out information about a particular generalized topic area. While this study did not measure beliefs as a dependent variable, the processes used to establish types of receivers do point to the possibility that what might well explain attitude change can also be used to predict belief formation. Further, beliefs until they are formulated, are subject to change via manipulations of those variables which provide receivers with information about a source and the source-message link. For the purpose of the current research, credibility was defined as a manipulatable set of value-based informational statements about a source of communication. Evidence and language intensity were defined as manipulatable information concerning the linkage between a source and a specific message in a general topic area.

Hypotheses

Based on the previously cited empirical support and the speculated concommitant relationship between attitudes and belief formation and change the following hypotheses were generated for study:

I. Regardless of the initial credibility of the source, messages supported by evidence will, in all intensity conditions, produce significantly greater belief change than messages not supported by evidence.

II. In conditions delivered by a high credible source, intensity will be an additive effect such that high intense language will produce significantly greater belief change than moderate intense language and that moderate will produce significantly greater belief change than low intense language, regardless of the inclusion of evidence.

III. In conditions delivered by a low credible source, intensity will be a non-additive effect such that:

   A. In the evidence conditions, high intense language will produce significantly greater belief change than moderate intense language and moderate intense language will produce significantly greater belief change than low intense language.

   B. In the non-evidence condition, low intense language will produce significantly greater belief change than moderate intense language and that moderate intense language will produce significantly greater belief change than high intense language.

Methodology

The following section will include a discussion of the procedures, measurement, and statistical design employed for study. Procedural considerations included the selection of subjects and those factors relating to the administration of the research. The discussion of measurement concerns the selection of scales and technique employed in measuring the variables set forth in the theoretic hypotheses. The final part of this section deals with the selection and application of the statistical procedures utilized in testing the theoretic hypotheses.

Procedure

The subjects for this study were selected from students enrolled in Communication 110, Fall, 1973, at Illinois State University. Prior to the actual experimental manipulations, a series of pilot studies were conducted for the purpose of controlling the independent variables credibility and language intensity. A pilot study was also conducted to select a topic.

The first of these studies involved the selection of a topic for the experimental message. Students enrolled in one section of the basic communication course responded to ten topics using semantic differential scales measuring attitude and belief. The topic which was most neutral on both attitude and belief dimensions and which had the lowest standard deviation of all topics tested was used in the experimental message. These criteria were established to allow belief formation and change to occur in the direction advocated by the message or to occur in the direction opposite the one advocated. Attitude data was gathered in the experimental booklet to serve as a manipulation check and as part of a companion study.

A second pilot study was conducted using the same subjects to determine the initial credibility of sources. The subjects responded to a paragraph about each of six sources using semantic differential scales. Prior to this pilot study, it was decided that the source scoring the highest on the competence dimension and the greatest number of other dimensions would be designated the high credible source, provided the mean score for that source was above four, the neutral point on the measuring instrument. Likewise it was decided that the low credible source would be that source which was significantly lower than the high credible source on the competence dimension and the greatest number of other dimensions. It was reasoned that the competence dimension of source credibility was the one that best represented a potential value-based informational manipulation.

The final two pilot studies evaluated the intensity of the message. In the first of these studies, students of a message composition course were presented copies of the experimental message. All words indicating intensity were removed from the message, leaving a number of blanks; lists of alternative words to fit each blank were provided. The subjects were asked to assign a score to each word on a semantic differential of Intense-Nonintense. The mean score for each word was then computed. To create the high intense message, the word having the highest mean score in each group of alternatives was inserted in the blanks; words having the next highest mean scores were inserted to form the moderate intense message; words having the lowest mean score were inserted to form the low intense message. In cases where two alternative words were supplied, the word having the higher mean score was inserted in the high intense message; the other word was inserted in both the moderate and low intense conditions.

The final pilot study had students from the basic communication course read the three messages that had been created, each subject reading only one condition. Each subject evaluted the intensity of the message using semantic differential scales developed by Charles (1971). Based on the results of this pilot study, adjustments were made in the messages so that the mean score for the high intense message was significantly higher than the mean score for the low intense message. An additional criterion was that the mean for the high intense message had to be at least a score of five on the measuring instrument.

Based on these pilot studies, the experimental booklet was prepared. The booklet contained a cover sheet, pre-test belief measure, introduction of the source to establish credibility, credibility induction test, a message of two and one-half pages, post-test belief measure, credibility post-test, evidence perception test, and an intensity perception measure. Each booklet contained

one experimental treatment, such as high intense, evidenced message ostensibly written by the high credible source. Twelve such experimental conditions were created and distributed randomly to 220 students in the basic communication course at Illinois State University. A minimum of 180 correctly-marked booklets was required to provide for fifteen subjects in each of the twelve experimental conditions. Each subject was asked to read the instructions contained on the cover sheet for marking the semantic differential scales and to mark all scales contained in the booklet.

Measurement

The dependent variable measured in this study was belief change. It will be recalled, however, that the topic chosen for the experimental measure was neutral with respect to belief, with neutral reflecting little or no belief. This would allow belief change to parallel the concept of belief formation. The measuring instrument used to determine the subject's belief toward the topic in pilot, control group, and before and after reading the message was ten semantic differential scales developed by Fishbein and Raven (1962). Fishbein and Raven report that reliability tests, conducted by measuring the same subjects' beliefs at four-day intervals, indicate a correlation between belief scores at .908 ($p < .01$); the correlations between attitude and belief scores for three topics were -.168, -.069, and .120 respectively. Thus, Fishbein and Raven conclude, the attitude and belief scales are reliable and independent measures.

Validity tests, attempts to selectively alter subjects' beliefs or attitudes through differential communication, demonstrated that messages designed to alter beliefs had a significant impact on beliefs but no significant impact on attitudes; likewise, attempts to alter attitudes had significant impact on attitudes and no significant impact on beliefs.

Two credibility measures were taken to serve as manipulation checks. The credibility scales used in the pilot study and in determining the initial and terminal credibility of sources were developed by McCroskey, Jensen, and Todd (1972). These scales have been used repeatedly in experimental studies and have yielded consistent factor structures.

A measure of language intensity was also used as a manipulation check. Scales developed by Charles (1971) were employed to measure the intensity of each message. Charles developed these scales to measure language intensity. Through factor analysis procedures, he determined that these scales loaded on a language intensity factor at the .65 level or greater and accounted for 21.53% of the variance.

An evidence perception measure was also contained in the experimental booklet to determine if the subject perceived the presence of evidence in the message. The scales used were based on face validity.

Operational Definitions

"Belief change" was regarded as the difference between pre- and post-test belief measures.

The "high credible source" was that source scoring the highest on the competence dimension and the greatest number of other dimensions of credibility in the credibility pilot study. The mean score on the credibility measuring instrument had to be above four for the source to be regarded as high credible.

The "low credible source" was that source scoring significantly lower than the high credible source on the competence dimension and the greatest number of other dimensions of credibility.

"Evidence" was considered statistical facts attested to by persons other than the immediate source of the message. All such evidence was fictionalized. Statistical facts were used in this experiment so that the language intensity of the evidence will be constant across all conditions. Without this criterion, the intensity of the language used in the evidence would have differed in accordance with the message intensity and thus the impact of the evidence might have differed across message conditions.

The "high intense message" was that message having the highest mean score on the intensity measuring instrument of all messages tested in the final pilot study of message intensity. The mean score had to be above five for a message to be regarded as high intense.

The "moderate intense message" was that message having the second highest mean score on the intensity measuring instrument of all messages tested in the final pilot study of message intensity.

The "low intense message" was that message having the lowest mean score on the intensity measuring instrument of all messages tested in the final pilot study of message intensity. The mean score had to be significantly below the mean score for the high intense message for the message to be considered low intense.

Statistical Design

The data was analyzed through the application of the following statistical procedure. Three-way analysis of variance was used to gain an accurate estimate of within group variance. That estimate was then employed in the denominator of those statistics (t-tests and Scheffe's) utilized for purposes of making cell comparisons and thus rejecting or failing to reject the null hypotheses of the study. The .05 level of confidence was used in reporting all findings. Homogeneity of variance was assumed, based on the number of experiments using randomly selected college freshmen and sophomores.

Results

The following section will include a summary of the findings of this research. Results will be reported on a hypothesis by hypothesis basis; results of manipulation checks will be reported at the end of this section.

Hypothesis I

The first theoretic hypothesis stated that messages supported by evidence would produce significantly greater belief change than messages not supported

by evidence. The evidence condition ($\bar{X}$ = 4.81) did not differ significantly (t = .42, $p > .05$) from the non-evidence condition ($\bar{X}$ = 3.91). Hypothesis I was not confirmed. There was no evidence of non-additivity.

Hypothesis II

The second theoretic hypothesis indicated that, in the high credible condition, high intense language would produce significantly greater belief change than moderate intense language and that moderate intense language would produce significantly greater belief change than low intense language, regardless of the inclusion of evidence. Since the necessary statistical comparison involved two means (evidence and non-evidence conditions) at each of three intensity levels, Scheffe's test was employed on the combined means. The critical difference necessary to achieve significance was 4.59; the high intensity condition (combined means = 9.87) differed from the moderate intensity condition (combined means = 8.80) by 1.07 ($p > .05$) and moderate differed from low (combined means = 9.86) by -1.06 ($p > .05$). Hypothesis II was not confirmed.

Hypothesis IIIa

Hypothesis IIIa indicated that, for a low credible source using evidence, high intense language would produce significantly greater belief change than moderate intense language and that moderate intense language would produce significantly greater belief change than low. A t-test comparison between the high intense, evidence, low credible condition ($\bar{X}$ = 6.53) and the moderate intense, evidence, low credible condition ($\bar{X}$ = 3.87) yielded t = 1.24 ($p > .05$); a similar comparison between moderate and low intense conditions ($\bar{X}$ = 4.73) yielded t = -.403 ($p > .05$). Hypothesis IIIa was not confirmed.

Hypothesis IIIb

Hypothesis IIIb stated that, for a low credible source using no evidence, low intense language would produce significantly greater belief change than moderate intense language and that moderate condition would produce significantly greater belief change than high intense language. A t-test comparison between the low intense, non-evidence, low credible condition ($\bar{X}$ = 2.67) and the moderate intense, non-evidence, low credible condition ($\bar{X}$ = 4.33) yielded t = -.78 ($p > .05$); a similar comparison between moderate and high intense conditions ($\bar{X}$ = 1.67) produced t = 1.24 ($p > .05$). Hypothesis IIIb was not confirmed.

Results of Manipulation Checks

In order to justify the use of belief change scores a three-way analysis of variance was computed on the subjects' premessage belief scores. No significant main effects or interactions were found. The premessage belief scores were also compared to the pilot study measures. A comparison of the pilot study belief mean ($\bar{X}$ = 20.29) did not differ significantly (t = 1.28, $p > .05$) from the premessage belief mean ($\bar{X}$ = 18.26). Since no significant differences were found, each subject acted as his own control.

Student t-tests to determine if change scores in each cell differed significantly from zero indicated that significant belief change had occurred in ten of twelve experimental conditions. (See Table 1)

Pre-test credibility measures demonstrated that the high credible source ($\bar{X}$ = 18.43) was perceived as significantly more competent (t = 5.17, $p < .05$) than the low credible source ($\bar{X}$ = 11.19). The high credible source ($\bar{X}$ = 15.65) was perceived significantly higher on the character dimension (t = 5.46, $p < .05$) than the low credible source ($\bar{X}$ = 9.80). The high credible source ($\bar{X}$ = 14.47) was perceived as significantly more dynamic (t = 2.20, $p < .05$) than the low credible source ($\bar{X}$ = 12.07). The high credible source ($\bar{X}$ = 15.52) did not differ significantly (t = -1.49, $p > .05$) from the low credible source ($\bar{X}$ = 17.13) on the extroversion dimension.

Post-test credibility measures demonstrated that the high credible source ($\bar{X}$ = 17.88) did not differ significantly (t = 1.41, $p > .05$) from the low credible source ($\bar{X}$ = 16.34) on the competence dimension. The high credible source ($\bar{X}$ = 15.47) did not differ significantly (t = 1.36, $p > .05$) from the low credible source ($\bar{X}$ = 13.87) on the character dimension. On the dynamism dimension, the high credible source ($\bar{X}$ = 13.62) did not differ significantly (t = .70, $p > .05$) from the low credible source ($\bar{X}$ = 12.82). On the extroversion dimension, the high credible source ($\bar{X}$ = 16.77) did not differ significantly (t = .10, $p > .05$) from the low credible source ($\bar{X}$ = 16.66).

Because of the obvious deterioration of the credibility of the initially high credible source, change scores on each dimension were analyzed to determine where significant changes took place. Scheffe's test was employed to determine if change scores were significant from zero.

On the competence dimension, the critical difference necessary to achieve significance was 3.24. The high credible source differed from zero by -.56 ($p > .05$); the low credible source differed from zero by 5.16 ($p < .05$). Thus, significant change on the competence dimension occurred only for the low credible source.

On the character dimension, the critical difference necessary to achieve significance was 3.54. The high credible source differed from zero by -.19 ($p > .05$); the low credible source differed from zero by 4.07 ($p < .05$). Thus, significant change on the character dimension occurred only for the low credible source.

On the dynamism dimension, the critical difference necessary to achieve significance was 2.26. The high credible source differed from zero by -.84 ($p > .05$); the low credible source differed from zero by .76 ($p > .05$). Significant change did not occur for either source on the dynamism dimension.

On the extroversion dimension, the critical difference necessary to achieve significance was 1.56. The high credible source differed from zero by 1.24 ($p > .05$); the low credible source differed from zero by -.48 ($p > .05$). Significant change did not occur for either source on the extroversion dimension.

The intensity of the high intense message ($\bar{X}$ = 20.95) did not differ significantly (t = .61, $p > .05$) from the moderate intense message ($\bar{X}$ = 20.09);

likewise, the high intense message did not differ significantly ($t = 1.30$, $p > .05$) from the low intense message ($\bar{X} = 19.12$).

The subjects did not perceive the presence of evidence in the messages to a significant degree. A comparison between evidence ($\bar{X} = 14.43$) and non-evidence messages ($\bar{X} = 13.29$) yielded $t = .61$ ($p > .05$).

Discussion

One of the major reasons for conducting the study was to investiage the concept of belief in the hopes of providing a more powerful dependent variable than attitude in the examination of persuasive communication. It was also hoped that an informational base for relating source and receiver to selected message variables could be provided. Language intensity was focused in upon on the grounds that its manipulation can be equated to the kind of probability levels that describe the beliefs held by receivers. That is, the probability levels of informational statements,even when assigned values in the sense of attitudes, define the subject's beliefs.

In being as candid as possible, the authors feel that they fell into a trap. The investigative strategy employed for the research involved too much of a commitment to those methodologies commonly associated with the measurement of attitudes and attitude change. It would appear that concepts like belief and belief change could be more realistically studied outside the attitude context. Even within an attitudinal paradigm, the research suffers some design problems which could well have produced insignificant results.

The researchers chose for the experimental message a topic which was most neutral on both attitude and belief measures. That choice was designed to allow subjects to change in the direction advocated by the message and also, as earlier research on intensity had suggested, to derogate the source and the message and move opposite the advocated direction. That choice, in reality, required the use of a topic about which a great many but not all subjects could be classified as apathetic.

The researchers estimate that 40% to 55% of the subjects responding to the study were apathetic, based on criteria established by Hylton and Lashbrook (1972). Apathetic subjects, by definition, have neutral beliefs and attitudes on a topic and thus lack the counter-arguments which inoculate others for persuasion. From a theoretic perspective, apathetics are in the process of belief formation. Any information in this process will be used in forming beliefs. A one-sided message, such as the experimental message of this study will consequently have a great deal of impact upon the views of apathetic subjects. They have no defenses against its arguments and will accept its information as part of the belief formation process. One would expect, then, that apathetics would alter their beliefs in line with any one-sided message, regardless of its source, intensity, or evidence. Results of this study indicate that significant belief change occurred in ten of twelve experimental conditions. The lack of differential effects as hypothesized adds even more support to this interpretation. The neutrals of the study could hold beliefs that were formed prior to the message treatment. Thus, neutrals could be expected to respond to a message differentially, while such a response would be beyond the sophistication of the apathetics. The use of both types of experimental subjects in the research could well have confounded the results.

This explanation is, of course, speculative. To answer some of the questions raised by this study regarding apathetics and neutrals a follow-up study is currently in progress. It is designed to test the effects of these variables on groups of apathetic and neutral subjects. It should provide some information regarding the effects of subject predispositions on both attitude and belief change.

Another problem that was encountered in the study which could also explain the confounding effects was the inability of the researchers to maintain the three levels of language intensity suggested by the pilot study data. The experimental subjects perceived all messages to be of equal but of relatively high intensity. When coupled with the lack of perceived difference in terms of use and non-use of evidence, one could argue that the message variable manipulations were too subtle to be comprehended by any receiver. Whether this problem rests in messages or people must await additional research.

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Table 1

Summary of Belief Change Scores

		High Credibility	Low Credibility
Evidence	High Intense	5.40*	6.53*
	Moderate Intense	3.00*	3.87*
	Low Intense	5.33*	4.73*
No Evidence	High Intense	4.47*	1.67
	Moderate Intense	5.80*	4.33*
	Low Intense	4.53*	2.67

*Indicates significant belief change